1. NOISE INVESTIGATION AND REDUCTION IN URBAN AREA (pp. 7 – 14)

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Abstract: The noise is very noxious for people's life and activity. In this paper the noise sources, the noxious effects of them and the propagate main in urban area are investigated. It is presented the measurement and evaluation methods, the admissible limits and the attenuation methods and effects of them are established.
Keywords: noise, investigation, attenuation, urban area, methods.

2. EXPERIMETAL RESEARCH REGARDING THE PROCESS OF DETERMINING LONGITUDINAL AND TRANSVERSAL FORCES IN CAR WHEEL AXIS (pp. 15 – 22)

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Abstract: This paper presents a method used for measuring the car wheel axis reaction, by foil strain gages and the calibration method for these foil strain gages.

3. ABOUT THE MAHEMATICAL MODELLING OF THE CAR WHEEL MOVEMENT (pp. 23 – 30)

Barbu Gh.[1], Neagoe D.[2], Câmpianu V.[3], Câmpianu O.[3]
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Abstract: This paper presents a mathematical modelling of the motor vehicle wheel movement. Using the impulse derivative axiom and the kinetic moment derivative, the motor vehicle wheel movement were determined. Then, by writing the movement equations for all the motor vehicle wheels, they are used for the study of the dynamic behavior of the whole motor vehicle.

4. THE COST CHALLENGE IN AUTOMOTIVE INDUSTRY – TITANIUM UTILISATION IN ENGINE COMPONENTS (pp. 31 – 36)

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Abstract: With advances in extraction/fabrication techniques and ever increasing gasoline prices the advantage of using lightweight materials such as aluminum, magnesium and titanium in automobiles continues to increase, particularly for the first two metals. The major drawback for titanium much more so than the other light metals - high cost – is omnipresent. However innovative extraction and fabrication approaches are leading to a deceased cost. This paper discusses the present status and future potential for titanium use in the family automobile.

5. MICROWAVES INSTALLATON FOR EXTRACTING THE VOLATILE OILS CONTAINED IN THE CONIFEROUS TREES LEAVES REZULTED AS WASTE AT THEIR CUTTING LOCATION (pp. 37 – 47)

Draganescu C.N[1]., Capp N[2]., Marculescu A[3]., Dumitru Gh[3]., Florea E[4]
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Abstract: This paper describes a hydro–distillation pilot–installation functionning with microwaves intended to extract the volatile oils from the coniferous tree needle leaves

resulted as waste after having raugh shaped these trees, at the site where they were cut. These oils can constitute–by their natural provenance–an exceptional row material that can be successfuly used in industry in various fields: cosmetics, pharmacy, food and paints and enamels. At the same an efficient management of the environment protection within the mountainous areals (soil and underground waters) is achieved, making the basis of a recovery industry in the forestry field.

6. BEST DIMENSIONING OF THE LONGITUDINAL REINFORCEMENT FOR PILLARS MADE OF REINFORCED CONCRETE OF THE INDUSTRIAL CONSTRUCTIONS FOR A REDUCED MATERIALS CONSUMPTION (pp. 48 – 52)

Georgescu I., Ilincioiu D., Radulescu C.,
University of Craiova

Abstract: Starting from a right-angled section right eccentric compressed, if its dimensions are known or pre-measured, we can discuss the best dimensioning of the total minimal consumption of reinforcement and reinforced concrete, respecting a few rules.

7. TECHNICAL COMMUNICATION (pp. 53 – 56)

Martin L.,
University of Craiova, Faculty of Letters

Abstract: As we know communication is the process of sharing information. This information is simply sent from a sender or encoder to a receiver or decoder. This activity is made via language to transmit important information. Communication causes conversation which is realized by two or more persons, often on a particular subject. Conversations are important under some aspects, because they permit students with different views of topics, here technical topics, to learn from each other. The future Mechanical Engineer must convey technical information and how he shapes this information is the key to the technical communication. To transmit great messages the engineer has to focus on audience needs. It is very difficult to create a message that perfectly matches an audience needs, but centuries of practice in communication have established effective techniques.

8. USING TECHNICAL TEXTS IN TEACHING ENGLISH FOR MECHANICS (pp. 57 – 58)

Martin L.,
University of Craiova, Faculty of Letters

Abstract: To teach technical English, teachers need great texts abound in technical words. The technical texts must be original because they are rich in technical terminology therefore the students can improve their specific vocabulary. Using original texts teachers of technical English could realize different types of drills from which the students should have good pronunciation, reading skills, speaking skills and writing skills.

9. THE EINSTEIN RELATIVISTIC MECHANICS AND THE THEORY OF $\overline{\bigotimes}$ DECOMPOSITION (pp. 59 – 68)

Morar A. M., Lupu Gh. A.,
University of Craiova, Department of Applied Mathematics

Abstract: In this paper we shall begin from a new point of view in relativistic mechanics which was elaborated by P. Stavre such as the asymmetrical Einstein model to be generalized ($\left| St_{I,II,III} \right|$). We shall analyze such models from the point of view of $\overline{\bigotimes}$-decomposition.

10. ENVIRONMENTAL AND POLLUTION PREVENTION FOR AUTOMOBILE RECYCLING (pp. 69 – 73)

Obogeanu C., Dumitru I., Popa Gh.,
University of Craiova

Abstract: Automobiles have a major impact upon the environment. Universal wastes are hazardous wastes that are more common and pose a lower risk to people and the environment than other hazardous wastes. Pollution prevention is the best way to protect the environment. It focuses on ways to avoid creating the pollution at its source, before it needs to be cleaned up. This can be done by using less hazardous materials in manufacturing, being careful to prevent spills, maintaining equipment in top condition, and through a number of cost-effective techniques.

11. SAVE ENERGY AND DIMINISH THE POLLUTIONS BY INCREASING THE EFFICIENCY OF GEARS (pp. 74 – 80)

Petrescu R. V., Petrescu F. I., Popescu N.,

Abstract: The paper presents an original method to determine the efficiency of the gear. The originality of this method relies on the eliminated friction modulus. The paper is analyzing the influence of a few parameters concerning gear efficiency. These parameters are: z_1 - the number of teeth for the primary wheel of gear; z_2 - the number of teeth of the secondary wheel of gear; α_0 - the normal pressure angle on the divided circle; β - the inclination angle. With the relations presented in this paper, one can synthesize the gear's mechanisms. Today, the gears are present everywhere, in the mechanical's world (In vehicle's industries, in electronics and electro-technique equipments, in energetically industries, etc…). Optimizing this mechanism (the gears mechanism), one can improve the functionality of the transmissions with gears; one save energy and one diminish the pollutions.

12. ABOUT THE 3D MODEL OF THE HUMAN KNEE COMPONENTS USING TOMOGRAPHICAL IMAGES (pp. 81 – 90)

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[2]The University of Craiova, Faculty of Mechanics
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Abstract: The paper presents a method of study and the steps to obtain the virtual bones of the human body. For that purpose was used a CAD parametric software which permits to define models with a high level of difficulty. The obtained models attached to other bones will be study using finite elements method and will be prepared for kinematics and dynamic simulation.

13. ABOUT THE DYNAMIC SIMULATION OF THE 3D MODEL OF THE HUMAN KNEE JOINT (pp. 91 – 100)

Adam D[1]., Popa D[2]., Tarnita D[3]., Niculescu D[3].,
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Abstract: The Human knee is the most important joint used in locomotion. Scientific studies are very difficult to realize because of the complexity of this joint, even they are made in a static mode. This paper presents a study method for the human knee and the necessary steps in order to obtain a virtual knee joint and a dynamic simulation. For this purpose it was used a CAD parametric software which permits to define models with a high degree of difficulty. First, it was defined the main bone components as femur, tibia and menisci. The obtained model was prepared for kinematical and dynamic simulation.

The input functions and parameters for the knee joint simulation were: the masses of the bone elements, the force applied on femur bone and the driver angle in the knee joint. The behavior of the virtual knee can give important informations which can be used in the fields of robotics, medicine sciences and medical robotics.

14. RESEARCHES ABOUT AIR POLLUTION MADE BY AUTO VEHICLES IN TARGU JIU (pp. 101 – 106)

Popa R., Calinoiu M.
University Constantin Brâncuşi of Târgu Jiu, Faculty of Enginnering

Abstract: The paper presents aspects about air pollution in the city of Tg-Jiu and the researches made to evaluate the pollution level. After monitoring the main pollutants (SO_2, NO_2, NH_3 and flying powders) it was proved that auto vehicles are the main air pollution source. A few solutions for reducing auto vehicles emissions are presented.
Keywords: pollution, auto vehicles, solutions.

15. ANALYSIS OF THE CONTACT BETWEEN TOOL AND PIECE AT INTERNAL GRINDING OF SOME CERAMIC MATERIALS (pp. 107 – 114)

Popescu D.
University of Craiova

Abstract: The paper presents a finite element analysis of the tension state and displacements at the contact between tool and piece in case of ceramic materials processing in axial direction.

16. REGARDING THE ADVANTAGES OF ECOLOGICAL FABRICATION IN PRODUCTION SYSTEMS (pp. 115 – 120)

Popescu D.
University of Craiova

Abstract: The paper presents aspects related to the usage of dry machining as ecological process as well as its advantages in production systems.

17. RESEARCHES CONCERNING THE ROMOTION OF „CLEAN TECHNOLOGIES" AND THE IMPACT REDUCTION OVER ENVIRONMENT,USING VIRTUAL SYSTEMS IN LUBRICANTS BEHAVIOR STUDY (pp. 121 – 128)

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18. SYMMETRIC AND ASYMMETRIC EINSTEIN GRAVITATIONAL FIELD. MAXWELL ELECTROMAGNETIC FIELD. (pp. 129 – 138)

Stavre P., Stănescu M. M.
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Abstract: In the first section we present the basic notions needed in the approach of new models in the electromagnetic and gravitational field theory Einstein Maxwell. These notions are less known or even not used in university lectures. In the second section we build new Einstein or Einstein Maxwell models to meet Einstein's observations with respect to the models – gravitational field and electromagnetic field, well studied in the specialized literature.

19. THE POLUTANT EMISSIONS COMPARETIVE STUDY FOR AN OTTO ENGINE WITH LOWER POWER FILL WITH GASOLINE OR LPG (pp. 139 – 144)

Stoican M., Bica M.
University of Craiova, Faculty of Mechanics

Abstract: In this article, the authors present the results of a study made to establish the efficiency of using the LPG (Liquefied Petroleum Gas) as an alternative combustible for the Otto engine. The test had been made on an Otto engine with lower power, equipped with sequential LPG installation. In first place, has been measured emission running the engine with gasoline, then running with LPG, making a series of comparisons in different operating conditions, for establishing in witch mode the emissions levels is high for an post calibration of the LPG installation, according with pollution standards Euro IV. Because the price of LPG is more chipper, this type of installation has spread more and more, needing a greater attention to obtain a higher efficiency, better emissions levels and more power delivery from the engine.
Keywords: auto vehicle, emissions, LPG.

20. CORRECTION FUNCTIONS FOR THE EVALUATION OF SPECIFIC EFFECTIVE FUEL CONSUMPTION OF THE TURBO SUPERCHARED LOW POWER ENGINE UNDER AIR PRESSURE MODIFICATING CONDITIONS AT THE ENTRY OF THE BLOWING ENGINE (pp. 145 – 152)

Teica L.
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Abstract: In the present paper are presented correction relations for specific fuel consumption in the case of the engines with compression ignition with a group of supercharged engines under the conditions of modificating the temperature. These relations are valid for a certain group of internal combustion engines.

21. THE MATHEMATICAL MODEL OF THE LOSS PRESSURE IN A HYDRAULIC PIPE WITH ANNULAR-ECCENTRIC CROSS-SECTION (pp. 153 – 158)

Țalu M.
University of Craiova, Faculty of Mechanics
Abstract: In this paper is presented a mathematical model for calculus the loss pressure in a hydraulic pipe with a annular-eccentric cross-section.
Keywords: pipe with annular-eccentric section, loss pressure, flow regime.

22. THE NUMERICAL PROGRAMME OF CALCULUS AND GRAPHICS FOR SOLVING THE MATHEMATICAL MODEL OF THE LOSS PRESSURE IN A HYDRAULIC PIPE WITH ANNULAR-ECCENTRIC CROSS-SECTION (pp. 159 – 164)

Țalu M.
University of Craiova, Faculty of Mechanics
Abstract: In this paper is presented an original programme used for calculus and plotting the numerical results of simulation of the mathematical model of the loss pressure in a hydraulic pipe with an annular-eccentric cross-section. Demonstrative it's make an application.
Keywords: pipe with annular-eccentric section, loss pressure.

23. THE MATHEMATICAL MODEL OF CALCULUS FOR THE LOSS PRESSURE IN A HYDRAULIC PIPE WITH ANNULAR SECTION WITH RIBS FOR CENTRING (pp. 165 – 170)

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[2]University of Craiova, Faculty of Mechanics,
Abstract: In this paper is presented a mathematical model for calculus the hydraulic loss pressure for the technical pipe with annular cross-section.
Keywords: hydraulic annular pipe, loss pressure, ribs.

24. THE NUMERICAL PROGRAMME FOR SOLVE THE MATHEMATICAL MODEL OF CALCULUS FOR THE LOSS PRESSURE IN A HYDRAULIC PIPE WITH ANNULAR SECTION AND RIBS FOR CENTRING (pp. 171 – 174)

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Abstract: In this paper is presented an original programme used for numerical calculus of simulation for the mathematical model of the loss pressure in a hydraulic pipe with annular section and ribs for centring. Demonstrative it's make two applications.